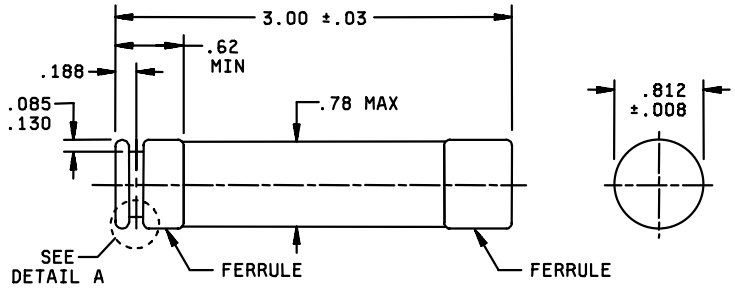
INCH-POUND
W-F-1814/57B
12 January 2004
SUPERSEDING
W-F-1814/57A
February 20, 1987

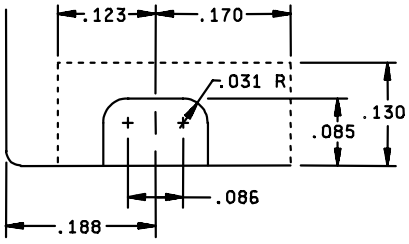
FEDERAL SPECIFICATION SHEET

FUSE, CARTRIDGE, HIGH INTERRUPTING CAPACITY, CLASSES RK1 AND RK5 (CURRENT-LIMITING) 250 VOLTS, 31-60 AMPERES

The General Services Administration has authorized the use of this federal specification sheet by all federal agencies.

The complete requirements for procuring the fuses described herein shall consist of this document and the latest issue of Specification W-F-1814.





DETAIL A
REJECTION GROOVE

Inches	mm	Inches	mm
.008	0.20	.150	3.81
.03	0.76	.170	4.32
.031	0.79	.188	4.78
.070	1.78	.62	15.8
.085	2.16	.78	19.8
.086	2.18	.812	20.62
.123	3.12	3.00	76.2
.130	3.30		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Solid line indicates location, shape, and dimensions for minimum rejection groove.
4. Dashed line indicates location, shape, and dimensions for maximum rejection groove.
5. Unless otherwise specified, tolerances are ±0.02 (0.51 mm) for two-place decimals and ±0.005 (0.13 mm) for three-place decimals.

FIGURE 1. Classes RK1 and RK5 fuses, 250 volts, 31-60 amperes.

REQUIREMENTS:

Interface and physical dimensions: See figure 1.

Physical - Nonrenewable.

Terminals - Ferrule type. The ferrules shall be approximately circular in cross-section.

Material - Brass, copper, or copper alloy.

Strength - 5 inch-pound torque between body and ferrules.

Alignment: The inside diameter of tubular gauge shall be not more than 0.823 inch.

Body:

Insulating material - Fiber, ceramic, melamine-impregnated glass fiber, or other suitable material.

Electrical:

Voltage - 250 volts or less.

Frequency - 48 to 60 hertz.

Current - See table I.

Current carrying capacity - 110 percent of rated current indefinitely with temperature rise not to exceed 50°C (90°F) above ambient on the body and the ferrules.

Overload interrupt:

Instantaneous - Shall interrupt within 1 hour at 135 percent of rated current and within 4 minutes at 200 percent of rated current.

Time delay - In addition to the above requirement, the fuse shall not interrupt 500 percent of rated current within 10 seconds.

Interrupting capacity rating - 200,000 amperes rms symmetrical at 250 volts, 48 to 60 Hz and a power factor of 20 percent or less. Closing angle shall be essentially at the zero of the voltage wave (maximum offset) or later, to produce start of arcing within 30 electrical degrees prior to system peak voltage.

Threshold ratio - 30 maximum for RK1; 65 maximum for RK5.

Peak let-thru current: See table II.

Maximum clearing I^2T: See table II.

Applicable fuseholder: Class R for ferrule type fuses in accordance with UL 512.

Government part number: The Government part number shall consist of the prefix “WF1814/57-“ followed by the part number designation shown in table I.

TABLE I. Current rating and part number designation.

Current in amperes	Part number designation			
	RK5		RK1	
	Instantaneous	Time delay	Instantaneous	Time delay
35	F535	D535	F135	D135
40	F540	D540	F140	D140
45	F545	D545	F145	D145
50	F550	D550	F150	D150
55	F555	D555	F155	D155
60	F560	D560	F160	D160

TABLE II. Peak let-thru and I^2T current.

	Between threshold and 50 kA		100 kA		200 kA	
	RK1	RK5	RK1	RK5	RK1	RK5
Maximum acceptable peak let-thru current ($I_p \times 10^3$)	10	20	12	21	16	26
Maximum clearing I^2T (amperes squared seconds) ($I^2T \times 10^3$)	40	200	40	200	50	200

MILITARY INTEREST:

Custodians:
Army - CR
Navy - YD
Air Force - 11
DLA - CC

Review Activities:
Army - AR, AT, CR4
Navy - OS
NSA - NS

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA - 7FXE
NASA - NA

Preparing Activity:
DLA - CC

(Project 5920-0807)